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AUTHOR Davis, Robert

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ABSTRACT

The National Institute of Education (NIE), a Federal agency started in August 1972, is concerned primarily with educational research and development. Before NIE was actually established, a Planning Unit within the U.S. Office of Education generated many papers on what the objectives, activities, and organizational structure of NIE should be. This planning paper considers certain areas in which it seems desirable to improve the quality of education. The state of educational affairs and apparent causes are discussed. Programs for action are recommended. (Author/RM)

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Outline --- Improving the Quality of Education

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1. Summary and Overview

The present paper considers certain specific areas in which it seems desirable to improve the quality of education. After a consideration of the present state of affairs, and a consideration of apparent causes, certain programs for action are recommended. They by no means exhaust all possible programs. On the contrary, they rocus mainly on two lines of attack:

- A. Action programs related to improving the art of teaching that are related to conceptualizing education as a craft (rather than as an applied science).
 - i) explanation of the "craft" conceptualization
 - ii) the need to identify teachers or principals as the fundamental practitioners
 - iii) the need to develop one or more rhetorics suitable for discussing education so as to clarify a sense of curriculum direction, variations in learning experiences, etc., in adequate detail and with sufficient subtlety, and in forms acceptable to teachers
 - a) This might include explication of "teacher belief systems"
 - iv) attempts to create greater diversity
 - a) The cluim that the "variables in education are constants" (David Hawkins); denials of the law of cause and effect
 - b) include the notion of the "minimal" school -- a variant where one does does as little as possible in school, and places maximum reliance on industry training programs, apprenticeships, TV and other media, etc.
 - v) the need to study this diversity carefully
 - a) include non-abstract ways of recording and sharing data
 - vi) efforts to identify, study, and share conspicuously superior practice (the "Sue Monells")
 - vii) NIE responsiveness to new ideas from the field; methods of seeking out new ideas from the field (the "Dorothy Conroys" and "Bob Herses")
 - ix) efforts to facilitate development of a base of cultural or ethical values shared by a community
 - a) this necessarily implies individual freedom of choice
- B. In part, NIE's contribution to the quality of U.S education will depend not only on specific programs directed toward quality, but on certain attributes of NIE's methods of doing business in general.

II. Evidence of inadequate quality (primarily from looking at K - 12 schools)

1. Schools are not providing children with the significant learning opportunities most children are ready for. (School experiences lack depth and significant

challenge.)

Three methods of demonstrating this:

- i) comparison of school experiences vs. experiences outside of school
- ii) analysis of experimental programs (Nova; Lexington, Mass.; etc.)
- iii) creation of measures of "significance" and "complexity" vs. "triviality"
- 2. School experiences lack authenticity
- 3. School milieu fails to respect children
- 4. Lack of an ethical or purposive orientation
- 5. Charles Silberman's "mindlessness" (perfunctory pro forma performance instead of vigorous purposeful participation in a viable micro-culture, namely the classroom itself)
 - 6. Query: Can one localize the quality deficiencies in terms of
 - i) the kind of learning involved (cognition; coping behavior; empathy and social responsibility; self-understanding)
 - ii) deficiencies characteristic of different types of school programs? (e.g., the "small-step" program; the "child's own mathematics"; does a "problem" take 15 seconds, 15 minutes, 2 days or 2 weeks?)
- III. Within education, prevalent conceptualizations, philosophy, and institutional pressures form a cohesive whole that hangs together in such a way as to defeat most efforts of change.

A. Institutional Pressures

- 1. The pressure to set trivial goals, especially "paper-and-pencil" goals. The pressure to employ trivial methodologies
 - i) How long does it take to learn the vocabulary of Euclidean geometry, and when, therefore, should it be taught?
 - ii) The behavioral objectives stated for teaching "sets" in the primary grodes.
- 2. Remote decisions limited by an inadequate rhetoric.
- 3. Pressures to minimize diversity, disagreement, choice (cf. questions of "community" and "culture")
- 4. Pressures to minimize individual responsibility
- 5. Pressures to concentrate on "efficiency" (the "pipeline" theory)
- 6. Permanence and impermanence: innovative programs are phased out, but Latin goes on forever (cf. Bob Meeker; indeed, precisely a retreat from high performance can go hard in hand with greater permanence)
- 7. Pressures within teacher education
 - i) the cost of the "craft" model
 - ii) the effect of devotion to abstract forms of "knowledge" (refer clicad to B, iii, b)
 - iii) the effect of the "pipeline" theory
- 8. Pressures within university research on education
- 9. Pressures against open disclosure of data
- 10. Possible remedies (cf. 1 A iv a; 1 A vii; 1 A ii; 1 A viii)
- B. Philosophic Limitations
 - 1. Epistemological narrowness
 - i) Considerable emphasis is frequently put on confirming or denying certain hypothetical statements relevant to education. But in fact there can be



very few propositions indeed whose truth or falsity will make much difference in improving schools. What is usually required is a whole panoply of learning experience, school milieu, expectations, etc., that together constitute an overall educational program.

ii) Within educational studies it is commonly assumed that direct empirical trials are nearly all that is required to advance our knowledge of education. This expectation is easily refuted by consideration of a few examples.

2. Methodological narrowness

- i) Excessive committment to "input-output" analyses
 - a) Expectation of statements that read: "This material, used by such-and-such kinds of teachers, in such-and-such a school setting, with such-and-such students, will produce this distribution of results..." This kind of information is of fundamental interest to performance contractors; it is NOT a foundation for a "scientific" understanding of the processes of education. In fact, though few realize it, it is not of interest to parents and children.
 - b) "input" analysis usually neglects "processes" (in the sense of Richard Jones); cf., e.g., expensive materials that remain unused in the teacher's closet.
 - c) cf., similarly, the number of college courses in mathematics which a teacher has taken.
- ii) Methods for specifying objectives for learning outcomes
- 3. Possible Alternatives
 - i) Development of a craftman's skill
 - ii) Other means (not abstract/symbolic) of recording data, sharing experiences (e.g., films)
 - iii) Explication, study, and comparison of teacher belief systems
 - iv) More minutely-detailed studies (Richard Jones; Robert Rosenthal) that <u>do</u> go further into "process".
 - v) Recognition that empirical studies cannot stand alone; the need for rational analysis (and even for discussion of priorities)

C. Conceptualizations of Education and of Learning

- 1. Defining "learning" as "a change in behavior"
- 2. When are we studying the "subject", when are we studying the teacher as a person, and when are we learning the fabric of the culture? (The "pipeline" theory as a special case.)
- 3. The phenomenon of achieving "the letter of the law" without achieving "the spirit of the law".
- IV. The "cohesive whole" described in III is, in turn, both a result of ISOLATION and a cause of further isolation. That is, schools and colleges of education suffer from:
 - A. Isolation from relevant parts of the knowledgable community (e.g., many



communities have people who know far more about physics than the teachers who are attempting to teach physics do. Is this in fact to be dealt with by the creation of "teacher proof" materials? Or how else?)

- B. Isolation from viable forms of scholarship within the peer group. (i.e., in what sense is the high school math teacher a "scholar"? What kinds of things does he study, or create? Cf. British AT/A. Cf. Section III C ii.)
- C. Isolation from a local neighborhood community (thereby losing its base of cultural values, expeciations, and priorities)
- D. Isolation from education's own practitioners. Because schools are impersonal hierorchies, those who plan "strategy" and do "research" are separated from the firing-line practitioners, the teachers and principals. Silberman's Cisis in the Classroom has an excellent section on this. The problem is greatly complicated by the facts that:
 - 1. There is no adequate rhetoric that allows everyone to discuss situations with basic agreement on fundamentals;
 - 2. Unlike mass-production, the firing-line tasks are not so simple that they can be discussed without such a rhetoric;
 - 3. This isolation renders everyone powerless to innovate: university faculty do not control schools or classrooms; teachers and principals are ordinarily too subject to constraints of various sorts to be able to initiate significant innovations, yet only they exercise direct control, and resort to indirect forms of control has implications for the nature of possible innovations, greatly limiting the kinds of things that are possible.
- V. As a result of factors mentioned above, efforts to improve (or even to study) schools are themselves commonly limited by deficiencies in our social apparatus for effecting improvements, or even for getting a clear understanding of the problems.

This has many aspects, which will be discussed in the preceding analysis, and also in the suggestions for possible programs that appear below. These aspects include:

- A. The problem that, in education, the "variables" are more like constants.
 - 1. Thus, the need for really experimental schools that do not attempt to defy the law of cause and effect;
 - 2. The need to work with:
 - i) public schools
 - ii) Catholic parochial schools
 - iii) NAIS-type private schools
 - iv) "free" schools
 - v) Montessori schools, Froebel Schools, etc.
 - vi) store-front schools
- B. The need to seek out individuals and organizations that are, in fact, deeply committed to change, to making an innovation succeed.
 - The need to try to overcome the isolation described above.



VI. Programs for the Improvement of Schools

- A. In each program considered in part B, we need to ask:
 - 1. What is the proper federal role in this activity?
 - 2. Can an operational program be created directly, or must there first be feasibility studies or other preliminary activities?
- B. Suggested Programs
 - 1. Programs intended to help establish teachers or principals as the responsible professionals
 - a) Experimental Program (a la Ithaca, N.Y.) to set up some principals as the main person responsible for their schools, with maximum authority to select staff, determine curriculum, establish school atmosphere, etc. In the Ithaca pattern, "the dollar follows the child" --i.e., parents and children choose among schools, and the budget of a school is determined by the number of children who choose to attend it. (This might be described as a kind of "voucher system" that works entirely within a public school system.)

IS A FEASIBILITY STUDY NEEDED? Probably not a full-scale study, but some consultation, advice, and information-gathering is needed. (This already began with the Berkeley conference.)

- b) Similar to a), except that teachers (rather than principals) are identified as the basic responsible professionals, and each teacher has maximum direct control of all relevant resources.
- c) Creation of detailed functioning of individuals and groups within a hierarchical school system structure.

WHAT IS THE FEDERAL ROLE IN SUCH A PROGRAM? This needs to be researched a bit, but the Ithaca program doesn't increase costs (and somewhat similar programs operate in England quite inexpensively), so Federal money would seem to be needed only for communications and documentation, plus (perhaps) for modest extra start-up costs.

What might be more important would be a Federal "brokerage" role, to help negotiate an acceptable and effective form for such a program. (E.g., for experimental purposes, temporary exemptions from many state school laws would be necessary.) (The guess is that many jobs would seem to be unnecessary if they were accurately described as they operate in actual practice, and some activities would seem to be definitely harmful and better discontinued. Note that this might lead to a better and cheaper operation of schools.)

The basic federal role would be to pay for the carrying out of such studies, attempt to guarantee their relevance, penetration and accuracy, and to disseminate the results.

Feasibility study needed? Probably, but an inexpensive one, concerned with ways to get accurate data without embarrassment to individuals or specific school systems. (This problem has been solved in the case of mental hospitals, and there's no reason to assume it cannot be in the case of schools.)



- d) Similar to a), but concerned with studies in other nations and cultures.
- e) Assistance to a school system that desires to eliminate its hierarchical structure (assistant superintendents, curriculum coordinators, etc.), in order to make principals and/or teachers the basic responsible professionals. (We already know of one school system that desires to do this.) Notice that the benefits of a successful elimination of hierarchical structure could be manifold: more professional effectiveness for teachers and/or principals; greater flexibility in future responses to change (because of the absence of a recalcitrant middle management group); less time and effort wasted a la "Parkinson's Law"; easier accomodation of diversity (less pressure to uniformity); and cheaper operation of schools.

The Federal role: financing start-up costs, documentation of process and results, dissemination. Possibly also a "brokerage" or "negotiating" role.

f) Creation of independent "Educational Resource Centers". As teachers and principals become basic decision makers, they turn to independent resource agencies to learn "how to conduct an open classroom" or "how to teach elementary school science," etc. University courses do not meet this need.

The case for this approach (a la British "Teacher Centres") is very strong, and can be reasonably well documented.

Such a program should be a major component in the overall program.

g) Creation of a cadres of people roughly similar to the British H.M.I.'s, particularly for the purposes of: seeking out new ideas; seeking out superior practitioners; and disseminating new ideas.

(Note that whether this is considered R & D or not is related to acceptance or rejection of the "craft" model of education.)

(We have notes on this, independently, from Mike Atkin and from Herb Kohl.)

h) A program to identify really superior teaching (or schools), and to record, analyze, and disseminate data on these teachers (or schools). (E.g., using among other things media, such as films and film-strips.)

(Note relation to g), above.)

i) Creation of teacher education programs based upon an "East Hill School" foundation -- i.e., some operating school would be the central integrating force, rather than enrollment in a university teacher-ed program.

(Cf., the history of the Bank Street School; cf. also, Froebel Institute in London.)

- i) Creation of some really experimental schools. Most attempts assume all of the standard parameters and constraints; the resulting schools usually look rather standard. To expect anything else is partly a denial of the law of cause and effect -- given identical causes, we should expect identical effects.
- k) The preceding schools could be part of teacher education programs, possibly operating during the summer. (Some rough trials were run during summer 1971, by Fran Cairone and Don Heinze; there are other sketchy prototypes.)



- 2. Programs aimed at increasing diversity (and making better use of it); and aimed at certain aspects of the cultural foundations of schools.
 - a) Careful studies of diverse schools
 - b) Same as a), but cross-cultural and international studies
 - c) Studies of the value/cultural foundations (such studies, between USA and England, having been undertaken by police, comparing police methods, cultural expectations, etc.); studies related to the assertions made in Reich's Greening of America.
 - d) Assistance in the creation of alternative schools (essentially the "voucher" system)
 - e) Creation of ingredients or aspects of schools that are intended to lead to greater changes in the overall school (e.g.: creation of a new subject for study, such as Papert's LOGO with its associated computational geometry, sentence-generator linguistics, etc.) This could include:
 - i) creation of new subjects to be studied (as above)
 - ii) creation of alternative school settings (e.g., Harry's "industry-based" malels)
 - iii) creation of novel school operating procedures or school architecture (cf. Bob Macker's paper)
- 3. Programs seeking to develop a more adequate rhetoric for describing education
 - a) Explore the mystique of the "project method" (such as the British notion of "the child's own mathematics" vs. "the teacher's mathematics")
- 4. Programs aiming to overcome other aspects of the "isolation" of education. (Note that the case of "isolation from its own front-line practitioners" has been dealt with at length above.)
 - a) Could presently unemployed technical personnel be employed, not in running schools, but in operating special shops (a la the "sheltered workshops" in NYC) where young people could learn the nature of various kinds of jobs, or even undertake apprenticeships.

 (This would require careful feasibility checks.)
 - b) Experimental program using the notion of a "minimal" school. Do as much as possible outside of school. Restrict school to as few hours per day, as few days per year, as possible. Supplement with industry-based educational programs, TV, etc.
 - c) Thinking of the NSF-sponsored creation of new university courses for study by teachers in methematics, physics, chemistry, biology, etc.:

 Create other new, and more appropriate courses, for study by teachers, not necessarily controlled by schools of education. (Spell out possible R & D role here.)
- 5. Programs aimed at "consumer protection" and parent choice
 - a) Programs to identify possible or known "limiting effects" or adverse effects of innovations. This is especially important where, say, use of computers narrows a child's options (as compared with (perhaps) face-to-face dialogue), or where highly manipulative (and especially subtly, "invisibly manipulative) methods are involved.
 - b) Programs to acquaint parents with diverse educational settings, possibilities. (This might use museums, TV, films, assistance in creating visiting arrangements so parents can visit a school and observe it first-hand.)



- 6. Programs to build a better "cumulative record"
 - a) studies of innovative efforts
 - b) factual histories of changes in policies, personnel, etc.
- V. Operating Methods of NIE Quality does not depend solely on explicit separate programs, but also on how

NIE conducts its own business.

- A. The need to seek out persons of superior competence
- D. The need to seek out determined innovators who are committed to the success of the innovation in question
- C. Will NIE itself be an "administered hierarchy"? To what extent will relationships be colleague-like?
- D. Note that the "craft" model has implications for the kinds of people one selects as advisors, readers, etc. (including discipline scholars, skilled "craftsmen", etc.)
- E. Inclusion of representatives from public schools, Catholic parochial schools, NAIS schools, free schools, store-front schools, etc.

